

10/019848  
531 Rec'd 10/17/01  
26 OCT 2001Claims

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1. A composition for an infant formula having a protein source which has a low threonine content and which comprises all of:
    - i) acid whey protein or sweet whey protein from which caseino-glycomacropeptide has been removed; and
    - ii) free arginine; and
    - iii) free histidine; and
    - iv) free tyrosine or free tryptophan or tryptophan rich milk protein or a mixture thereof.
  2. A composition according to claim 1 wherein the protein source comprises less than about 8g threonine /16g ~~N~~ Nitrogen .
  - 15 3. A composition according to any preceding claim which comprises from about 9.0 to about 10.0 w/w% of protein.
  4. A composition according to any preceding claim wherein the protein source comprises casein protein.
  - 20 5. A composition according to claim 4 wherein the protein source comprises about 6% to about 50% by weight of whey protein and about 20% to about 40% casein protein.
  - 25 6. A composition according to any preceding claim wherein the protein source is substantially free of lactose.
  7. A composition according to any preceding claim wherein the protein source has less than 10% blocked lysine.
  - 30 8. A composition according to any preceding claim wherein the protein source comprises hydrolysed protein.
  - 35 9. A composition according to claim 8 in which the protein source comprises about 98.5% to about 97% by weight of hydrolysed sweet whey protein and about 1.5% to about 3% by weight of arginine, tyrosine, and histidine.

10. A composition according to any preceding claim which comprises about 0.1% to about 3% by weight of arginine; about 0.2% to about 1% by weight of tryptophan or tyrosine; and about 0.1 to about 1.5% by weight of histidine.
11. A composition according to any preceding claim which comprises a lipid source, a carbohydrate source, and a protein source.
12. A composition according to claim 11 wherein the lipid source includes medium chain triglycerides.
13. A composition according to claim 11 or 12 wherein the carbohydrate source includes lactose.
14. An infant formula which comprises a composition according to any preceding claim wherein the protein source comprises up to about 0.1% by weight histidine, about 0.1% to about 0.3% by weight arginine, and about 0.3 to about 0.5% by weight tryptophan.
15. An infant formula which comprises a composition according to any one of claims 1 to 13 which wherein the protein source comprises about 0.2% to about 0.4% by weight histidine, about 1% to about 2% by weight arginine, and about 0.2% to about 0.4% by weight tryptophan.
16. An infant formula which comprises a composition according to any one of claims 1 to 13 which the protein source comprises about 1% to about 1.5% by weight histidine, about 0.6% to about 0.9% by weight arginine, and about 0.3% to about 0.5% by weight tyrosine.
17. An infant formula which comprises a composition according to any one of claims 1 to 13 which the protein source comprises about 0.2% to about 0.4% by weight histidine, about 1% to about 2% by weight arginine, and about 0.2% to about 0.4% by weight tyrosine.
18. A method of producing a composition according to any one of claims 1 to 13 which comprises the step of blending whey protein and casein protein

together with free arginine; free histidine; and tyrosine or tryptophan rich milk protein or free tryptophan or a mixture thereof and homogenising the blended mixture.

- 5 19. Use of a composition according to any one of claims 1 to 13<sup>for</sup> ~~in~~ the manufacture of a medicament or nutritional product for addressing addressing the nutritional needs and providing healthy growth of an infant.
- 10 20. A method of addressing ~~addressing~~ the nutritional needs and providing healthy growth of an infant which comprises administering an effective amount of a composition according to any one of claims 1 to 13.